

**What is claimed is:**

1. A system to supply power to a computing device, comprising:
  - a first unit that outputs an AC input voltage, and produces an AC output
- 5      voltage from a battery voltage in response to a failure of the AC input voltage; and
  - a second unit that produces a DC output voltage from the AC input voltage, and produces the DC output voltage from the battery voltage in response to the AC input voltage failure.
- 10     2. The system of claim 1, the second unit comprising:
  - a rectifier that produces a first DC voltage from the AC input voltage; and
  - a converter that converts the first DC voltage into the DC output voltage, and converts the battery voltage to produce the DC output voltage.
- 15     3. The system of claim 1, the first unit comprising:
  - an inverter that converts the battery voltage into the AC output voltage.
- 20     4. The system of claim 1, the second unit comprising:
  - a rectifier that produces a first DC voltage from the AC input voltage;
  - a second converting unit that converts the battery voltage into a second DC voltage;
  - a first converting unit that converts the first DC voltage into the DC output voltage, and converts the second DC voltage into the DC output voltage in response to the AC input voltage failure; and

a first switching unit that switches between a first position to couple the first DC voltage to the first converting unit and a second position to couple the second DC voltage to the first converting unit.

5        5. The system of claim 1, the first unit comprising:  
an inverting unit that converts the battery voltage into the AC output voltage;  
and  
a second switching unit that switches between a third position to output the AC output voltage and a fourth position to output the AC input voltage.

10      6. The system of claim 2, the second unit further comprising:  
a charger that uses the first DC voltage to produce a battery charging voltage.

15      7. The system of claim 2, the rectifier further comprising:  
a filter that produces a filtered AC input voltage from the AC input voltage;  
and  
a rectifying unit that converts the filtered AC input voltage into the first DC voltage,

20      wherein the uninterruptible power supply unit outputs the filtered AC input voltage, and the power supply unit produces the DC output voltage from the filtered AC input voltage.

25      8. A power supply for a computing device comprising:  
a rectifier that converts an AC input voltage into a first DC voltage;

a converter that converts the first DC voltage into one or more DC outputs, and converts a battery voltage into the one or more DC outputs in response to the absence of the AC input voltage;

an inverter that outputs the AC input voltage, and converts a battery voltage

5 into an AC output voltage in response to the absence of the AC input voltage.

9. The power supply of claim 8, further comprising:

a charger that couples to the rectifier to produce a battery charging voltage.

10 10. The power supply of claim 8, the converter comprising:

a first switching unit that switches between a first position to couple the first DC voltage to the converter and a second position to couple the battery voltage to the converter.

15 11. The power supply of claim 8, the converter comprising:

a second converting unit that converts the battery voltage into a second DC voltage;

a first converting unit that converts the first DC voltage into the one or more DC outputs, and converts the second DC voltage into the one or more DC outputs in

20 response to the absence of the AC input voltage; and

a first switching unit that switches between a first position to input the first DC voltage to the first converting unit and a second position to input the second DC voltage to the first converting unit.

25 12. The power supply of claim 8, the inverter comprising:

a second switching unit that switches between a third position to output the AC output voltage and a fourth position to output the AC input voltage.

13. The power supply of claim 8, the inverter comprising:  
5           an inverting unit that converts the battery voltage into the AC output voltage;  
and

              a second switching unit that switches between a third position to couple to the inverting unit and a fourth position to couple to the rectifier.

10           14. The power supply of claim 8, the rectifier comprising:  
              a filter that filters out interference in the AC input voltage to produce a filtered AC input voltage; and  
              a rectifying unit that converts the filtered AC input voltage into the first DC voltage,

15           wherein the inverter outputs the filtered AC input voltage in response to the AC input voltage.

15. A method to supply power to a computing device, comprising:  
              in response to an AC input being present, outputting the AC input and  
20           producing a DC output from the AC input; and  
              in response to a failure of the AC input, producing an AC output from a battery input and producing the DC output from the battery input.

16. The method of claim 15, further comprising:

in response to the AC input being present, converting the AC input into a first DC input; and

converting the first DC input into the DC output.

5           17. The method of claim 15, further comprising:

in response to the AC input being present, converting the AC input into a first DC input; and

converting the first DC input into a battery charging output.

10          18. The method of claim 15, further comprising:

in response to the AC input failure, converting the battery input into a second DC input; and

converting the second DC input into the DC output.

15          19. The method of claim 15, further comprising:

in response to the AC input being insufficient for the operation of the computing device, converting the battery input into the AC output.

20          20. The method of claim 15, further comprising:

supplying the AC input to one or more AC peripheral devices of the computing device; and

supplying the DC output from the DC input to a motherboard of the computing device and one or more DC peripheral devices of the computing device.

25          21. The method of claim 15, further comprising:

supplying the AC output to one or more AC peripheral devices of the computing device; and  
supplying the DC output from the battery input to the motherboard of the computing device and one or more DC peripheral devices of the computing device.

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22. A system, comprising:  
a processor to perform one or more functions in the system; and  
a power supply system to power the processor from an AC input, and power  
the processor from a battery input in response to the AC input being insufficient to  
10 operate the processor,  
a housing to accommodate the processor and the power supply system.

23. The system of claim 22, the power supply system comprising:  
a rectifier to convert the AC input into a first DC input;  
15 a converter to produce one or more DC outputs from the AC input, and  
produce the one or more DC outputs from the battery input in response to absence  
of the AC input; and  
an inverter to output the AC input at an output of the power supply system,  
and produce an AC output at the output of the power supply system from the battery  
20 input in response to the absence of the AC input.

24. The system of claim 23, the power supply system further comprising:  
a charger that couples to the rectifier to convert the first DC input into a  
battery charging output.

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25. The system of claim 23, the converter comprising:

a first converting unit to convert the first DC input into the one or more DC outputs;

a second converting unit to convert the battery input into a second DC voltage,

5 a first switching unit to switch between a first position in response to the presence of the AC input and a second position in response to the absence of the AC input, wherein the first switching unit at the first position couples the rectifier to the first converting unit, the first switching unit at the second position couples the second converting unit to the first converting unit for the first converting unit to convert the second DC voltage into the one or more DC outputs.

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26. The system of claim 23, the inverter comprising:

an inverting unit to convert the battery input into the AC output voltage; and

15 a second switching unit to switch between a third position in response to the absence of the AC input and a fourth position in response to the presence of the AC input, wherein the second switching unit at the third position couples the inverting unit to the output of the power supply system, and the second switching unit at the fourth position couples the rectifier to the output of the power supply system.

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27. The system of claim 23, the rectifier comprising:

a filter to produce a filtered AC input from the AC input; and

a rectifying unit to convert the filtered AC input into the first DC input.

28. The system of claim 27, the inverter comprising:

- an inverting unit to convert the battery input into the AC output; and
- a second switching unit that switches between a third position to provide the AC output voltage at the output of the power supply system and a fourth position to

5 provide the filtered AC input voltage at the output of the power supply system.

29. The system of claim 22, the power supply system comprising:

- a rectifier to convert the AC input into a first DC input;
- a convert to produce one or more DC outputs from the AC input, and

10 produce the one or more DC outputs from the battery input in response to the AC input being insufficient to operate the system; and

- an inverter to output the AC input at an output of the power supply system, and produce an AC output at the output of the power supply system from the battery input in response to the AC input being insufficient to operate the system.